

A rare case of entire small bowel diverticulosis- a case report

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Abstract. Small bowel diverticulosis is a rare condition, with diverticula that can be classified as congenital or acquired, mostly of them being acquired pseudo diverticula, excepting the Meckel diverticula that is congenital. Their exact etiology has not been definitively identified and most of the patients with this condition are asymptomatic, but when they get complicated with occlusion or perforations, they become an emergency. The clinical case is represented by an 87-year-old patient with intestinal occlusion, caused by an intestinal volvulus on adherential brida, with a personal history of hysterectomy 20 years ago, left breast mastectomy 15 years ago and a laparoscopic cholecystectomy 5 years ago. Although the patient had an abdomino-pelvic computer tomograph at admission in the emergency room, the small bowel diverticulosis was discovered intraoperatively. **Objectives:** to present the case particularity, the etiology, the possible complications and the method of choices for the treatment of this given pathology. **Material and methods:** the specialty literature was researched to see what is the standard procedure in this type of condition and what to do when we find these so-called incidentalomas. **Results:** The results of the given case shows that diverticulosis of the small intestine, a rare condition, can always appear in clinical practice concomitantly or not with other diseases so it's important to recognize it and know what to do in this case. **Conclusion:** More knowledge of this rare condition would be very useful in clinical practice, from putting the diagnosis through radiological investigation methods to knowing the treatment options.

Keywords: entire small bowel, diverticulosis, occlusion, case report

Introduction

Small bowel diverticula is an uncommon acquired condition, seen in up to 0.7-1% of patients on autopsy or incidental radiographs. The most often is seen in duodenum, jejunal and ileal localizations are very rare, and in the entire small bowel even rarer [1].

Most of the patients with this disease are asymptomatic and less than 5% will present bleeding unlike colonic diverticula, and the clinical significance of uncomplicated diverticula is minimal. They also can be associated with bacterial overgrowth leading to inflammation or impacted with food residue, and cause important abdominal pain or intestinal obstruction. [2].

They are usually pulsion-type pseudo diverticula because they contain only mucosal and submucosal layers that are herniating through the muscularis layer, often multiple, diminishing in frequency from the ligament of Trietz to the

ileocecal valve and associated with colonic diverticula in about 30-35% of cases [3].

Due to the low frequency of the condition and the challenges associated with diagnosis, this type of diverticula are usually identified incidentally on barium swallow or with

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complications like occlusion or perforation, much of the existing knowledge about the condition is based on case reports and small case series[4].

Clinical case

A 87- year- old women, with multiple personal pathological history that includes: hysterectomy 20 years ago, left breast mastectomy 15 years ago and a laparoscopic cholecystectomy 5 years ago, presents at the Emergency Room of the Emergency County Clinical Hospital „Saint Spiridon” Iasi, accusing diffuse abdominal pain, abdominal distention and lack of intestinal transit for faeces and gases with onset 4 days ago. Clinically the patient presents: enlarged abdomen, intensely painful in the hypogastrium, where is detected an postoperative eventration of about 2 cm in diameter that is irreducible and painful.

Paraclinical is detected: leukocytosis (Leukocyte= $10.48 / \cdot 10^3/\mu\text{L}$) with lymphocytosis (Lymphocytes number= $0.32 / \cdot 10^3/\mu\text{L}$), anemia (Hemoglobin= 10.9 (g/dl); Hematocrit= 31.3 (%); Erythrocytes= $3.34 / \cdot 10^3/\mu\text{L}$) and hydroelectrolytic disorders (Sodium= 128 / mmol/l, Chloride= 97/ mmol/l). The abdominal X-ray performed at emergency room reveals multiple hydroaeric levels in the upper hemiabdomen (**Figure 1**).

The CT scan of the abdomen and pelvis performed after the X-ray detects multiple small intestine loops dilated up to 60 mm, with thin wall and moderate contrast socket at their level, with hydroaeric levels and the presence of a sudden decalibration area at the level of the mesogast on a length of about 100 mm, and also an eventration at the level of the hypogastric region with a package of 16 mm and another lower by it at 37 mm, the latter having 22 mm, with content represented by the great epiploon (**Figure 2**).

Analyzing the clinical and paraclinical data, the emergency surgical intervention is decided, the patient being admitted directly in the operating room of the 2nd Surgery Clinic.

Through exploratory laparotomy is detected an strangled eventration with necrotic part of the great epiploon inside, intestinal occlusion produced by volvulus of ileum on intraperitoneal adherent brida and diverticulosis of the entire segment of the small intestine uncomplicated (Figure 3, Figure 4) for which it is

practiced section of the brida, ileum devolvulation, partial omentectomy and surgical cure of eventration, anatomical procedure.



Figure 1- Abdominal Rx- ray with multiple

Figure 2- Abdominal Ct- Scan with small hydroaeric levels bowel dilated loops

Postoperative evolution is favorable, the empiric antibiotherapy course as well as hydroelectrolytic, acid-base, metabolic rebalancing and treatment continued with good results. The patient is discharge at home on the 10th postoperative day with normal physiological

intestinal transit, good general condition and complete digestive tolerance with the recommendations of Gastroenterological consultation in order to highlight and make recommendations for the newly diagnosed small bowel diverticulosis.

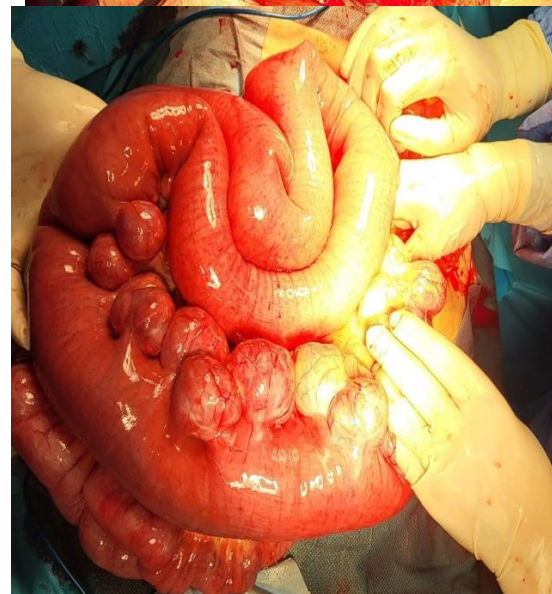


Figure 3- Ileon Diverticulosis
Figure 4- Entire small bowel diverticulosis

Discussion

The diverticulosis of the small bowel still represents a rare condition that can be seen in people of all ages, with maximum prevalence in

the adults over age 50 [5]. The exact etiology of this entity remains yet unknown, the diverticula are thought to arise during periods when the intraluminal pressure is of increased, possibly in the setting of inflammation [6], or when intestinal dyskinesia occurs, leading to localized areas of high pressure within the small bowel [3,7].

This disease has variable clinical manifestations going from asymptomatic or minor, non-specific gastrointestinal symptoms like abdominal pain, constipation, diarrhea, dyspepsia and malnutrition to symptoms of intestinal occlusion with stopping transit for feces and gases, nausea, vomiting or digestive hemorrhage that occurs in 10- 20% of the patients with this entity [8, 9].

Small bowel diverticula can be visualized on Rx-ray of the gastrointestinal tract, Computed Tomography (CT) scans, and Magnetic Resonance Imaging (MRI), or intraoperatively.

The patients that are asymptomatic do not need treatment for this disease, but the management of symptomatic cases depends on the clinical presentation of the patient, like in cases of transit disorders such as diarrhea-antibiotic therapy for the pathogen that causes it, is needed or Endoscopic Retrograde Cholangiopancreatography in choledocholithiasis, and surgery in the acute abdomen presentation with obstruction or perforation of the diverticula [10-12].

In the specialized literature like the article written by Spasojevic M et al., where 3 groups were studied; the first group had a review of published cases after 1995 combined with their original data; the second group that contained data from the Norwegian Patient Registry, and in the third group there have been cases that were reported in the literature before 1995 and were considered as controls.

This study revealed no significant differences in the outcomes of conservative or surgical management between the groups, but in terms of surgical treatment there was a difference in the type of surgical procedure, in which the outcomes of surgical resection were better in the first group compared to the third one.

In group I the most common procedure was small bowel resection (in 83- 90.1% cases), after that was the suture closure (in 5- 5.5% cases), in comparison with the therapeutic conduct regarding the group 3 where small bowel resection was performed in 67.4% of patients and suture closure in just 32.6% [13]. In the acute form of diverticulitis or when the patients have certain diseases that contraindicate surgery, the conservative treatment may be recommended, being mainly based on broad-spectrum antibiotherapy oral or intravenous, like: Piperacillin-Tazobactam, Metronidazole, Trimethoprim, Sulfamethoxazole, Levofloxacin and anti-inflammatory medication combined with diet [14,15,16].

Conclusions

Even though diverticula of the small bowel is not a common condition we should consider them as a rare but possible cause of abdominal pain, upper gastrointestinal obstruction and malnutrition.

The radiologist is responsible to identify the key radiological elements for diagnosing this condition in the uncomplicated form, when no treatment is required if is asymptomatic, and more importantly when obstruction, perforation or hemorrhage occurs as a complication of it.

If this does not happen, however, the surgeon remains responsible for its intraoperative recognition and for the proper treatment of complications when needed.

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